

**IN THE CLAIMS:**

1. (Currently Amended) A method for depositing a low dielectric constant film, comprising:

delivering a gas mixture comprising:

a cyclic organosiloxane; and

two or more oxidizing gases comprising  $N_2O$  and  $O_2$  to a substrate in a chamber, wherein a ratio of a flow rate of the  $N_2O$  to a total flow rate of the two or more oxidizing gases into the chamber is between about 0.1 and about 0.5; and

applying RF power to the gas mixture at conditions sufficient to deposit a low dielectric constant film on a surface of the substrate, ~~wherein the low dielectric constant film has a carbon content between about 5 and about 30 atomic percent; and~~

controlling a carbon content of the low dielectric constant film at between about 5 and about 30 atomic percent.

2. (Original) The method of claim 1, wherein the two or more oxidizing gases consist of  $N_2O$  and  $O_2$ .

3. (Original) The method of claim 1, wherein the cyclic organosiloxane is octamethylcyclotetrasiloxane (OMCTS).

4. (Original) The method of claim 1, wherein cyclic organosiloxane is selected from the group consisting of 1,3,5-trimethylcyclotrisiloxane, hexamethylcyclotrisiloxane, 1,3,5,7-tetramethylcyclotetrasiloxane (TMCTS), octamethylcyclotetrasiloxane (OMCTS), 1,3,5,7,9-pentamethylcyclopentasiloxane, and decamethylcyclopentasiloxane.

5. (Original) The method of claim 4, wherein the gas mixture further comprises an inert gas selected from the group consisting of helium, argon, and combinations thereof.

6. (Original) The method of claim 1, further comprising post-treating the low dielectric constant film with an electron beam.

7. (Currently Amended) A method for depositing a low dielectric constant film, comprising:

delivering a gas mixture comprising:

a cyclic organosiloxane; and

an oxidizing gas consisting essentially of a  $N_2O$  and a  $O_2$  gas to a substrate in a chamber, wherein the  $N_2O$  is delivered into the chamber at a flow rate between about  $0.71 \text{ sccm/cm}^2$  and about  $1.42 \text{ sccm/cm}^2$  of substrate surface, wherein a ratio of flow rate of  $N_2O$  to a total flow rate of the  $N_2O$  and the  $O_2$  gas is between about 0.1 and about 0.5; and

applying RF power to the gas mixture at conditions sufficient to deposit a low dielectric constant film having a carbon content between about 5 and about 30 atomic percent on a surface of the substrate, ~~wherein the low dielectric constant film has a carbon content between about 5 and about 30 atomic percent.~~

8. (Cancelled)

9. (Original) The method of claim 7, wherein the gas mixture further comprises a linear hydrocarbon.

10. (Original) The method of claim 9, wherein the linear hydrocarbon is ethylene.

11. (Original) The method of claim 7, wherein the cyclic organosiloxane is octamethylcyclotetrasiloxane (OMCTS).

12. (Original) The method of claim 7, wherein the cyclic organosiloxane is selected from the group consisting of 1,3,5-trimethylcyclotrisiloxane, hexamethylcyclotrisiloxane, 1,3,5,7-tetramethylcyclotetrasiloxane (TMCTS), octamethylcyclotetrasiloxane (OMCTS), 1,3,5,7,9-pentamethylcyclopentasiloxane, and decamethylcyclopentasiloxane.

13. (Original) The method of claim 7, wherein the gas mixture further comprises an inert gas selected from the group consisting of helium, argon, and combinations thereof.

14. (Original) The method of claim 7, further comprising post-treating the low dielectric constant film with an electron beam.

15-20. (Cancelled)